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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/539,854	06/20/2005	Sander Jurgen Roosendaal	NL02 1383 US	6521

24738 7590 02/23/2007
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EXAMINER	
NGUYEN, LAUREN	

ART UNIT	PAPER NUMBER
2871	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/23/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/539,854

Applicant(s)

ROOSENDAAL, SANDER
JURGEN

Examiner

Lauren Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 06/20/2005.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed on 06/20/2005 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because the Foreign Patent Document and the Non-Patent Literature Document were not provided. It has been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609.05(a).

Drawings

2. Figures 3A and 3B should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities:

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- On page 2, line 9, 'amongst' should be corrected to --among--.
- On page 8, line 19, 'reflector 352' should be corrected to --reflector 354--.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 1-2, 4-10** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kim** (U.S. Publication Number 2002/0036732) in view of **Hartung et al.** (U.S. Patent Number 5,859,625) and further view of **Lu et al.** (U.S. Patent Number 6,972,812).

6. With respect to **claim 1**, as shown in figures 6-8, **Kim** discloses a Liquid Crystal Display (LCD) device, having a liquid crystalline cell (see at least paragraph 0003, lines 1-4) at least partially arranged as a reflective liquid crystalline cell (600a, figure 6).

Kim discloses the limitations as shown in the rejection of **claim 1** above. **Kim** does not disclose a normally black LC cell and driving means for driving the LC cell, which are operable in an active mode allowing for normal use and a standby mode for reducing power consumption of the device.

However, **Hartung et al.**, in at least column 2, lines 49-54, figures 1 and 2, discloses said liquid crystal display device comprising driving means (100) for driving the liquid crystalline cell, which driving means are operable in an active mode allowing for normal use of the device,

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and a standby mode for reducing power consumption of the device. In addition, **Lu et al.**, in at least column 1, lines 17-19, discloses a normally-black liquid crystalline cell.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the LCD of **Kim** with the teachings of **Hartung et al.** and **Lu et al.** because such modification would provide power saving benefits in LCD display devices (**Hartung et al.**, see at least column 7, lines 25-27) and provide LCD devices with higher contrast, higher response speed, and excellent viewing angle (**Lu et al.**, see at least column 1, lines 22-25 and lines 44-46).

7. With respect to **claim 2**, as applied to **claim 1** above and shown in figures 1-2, **Hartung et al.** discloses a maximum drive voltage generated by the driving means in the standby mode is lower than a maximum drive voltage generated by the driving means in the active mode (see at least column 2, lines 53-54, since low voltage results in low power; and column 4, lines 45-58).

8. With respect to **claim 5**, as applied to **claim 1** above and shown in figures 6-8, **Kim** discloses the liquid crystalline cell is a transfective liquid crystalline cell (600a and 600b, figure 6; paragraph 0003, lines 1-4).

9. With respect to **claims 4 and 6**, as applied to **claim 1 and 5** above, **Lu et al.**, in at least column 3, lines 1-2, figures 1 and 2, discloses the liquid crystalline cell comprises a layer of a vertically aligned liquid crystalline material.

10. With respect to **claim 7**, as applied to **claim 6** above and shown in figures 6-8, **Kim** discloses the layer of the liquid crystalline material is arranged between a first polarizer (510) and a second polarizer (410) being oriented at a right angle with the first polarizer (figure 8).

Kim discloses the limitations as shown in the rejection of **claim 7** above. **Kim** does not disclose the vertically aligned liquid crystalline material.

However, **Lu et al.**, in at least column 1, lines 15-17, discloses the vertically aligned liquid crystalline material.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the LCD of **Kim** with the teaching of **Lu et al.** because such modification would provide LCD devices with higher contrast, higher response speed, and excellent viewing angle (see at least column 1, lines 22-25 and lines 44-46).

11. With respect to **claim 8**, as applied to **claim 5** above and shown in figures 6-8, **Kim** discloses a $\lambda/4$ compensation layer (520 or 420) is arranged adjacent at least reflective parts of the liquid crystalline cell.

12. With respect to **claim 9**, as applied to **claim 6** above and shown in figures 6-8, **Kim** discloses a cell gap for a transmissive sub-pixel (d_2) of the liquid crystalline cell is 2 times a cell gap for a reflective sub-pixel (d_1) of the liquid crystalline cell ($d_2 = 2 * d_1$; see at least paragraph 0050, lines 15-16).

13. With respect to **claim 10**, as applied to **claim 9** above, **Kim** discloses the claimed invention except for the cell gap for the transmissive sub-pixel is about 1.8 times the cell gap for the reflective sub-pixel.

However, **Kim**, in at least paragraph 0050, lines 18-20, discloses the cell gap for the transmissive sub-pixel is about 1.8 to 2.5 times the cell gap for the reflective sub-pixel.

In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). See MPEP § 2131.05.

14. **Claim 3** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Kim** (U.S. Publication Number 2002/0036732), **Hartung et al.** (U.S. Patent Number 5,859,625) and **Lu et al.** (U.S. Patent Number 6,972,812), and further in view of **Adachi et al.** (U.S. Publication Number 2004/0100598).

With respect to **claim 3**, the combination of **Kim / Hartung et al. / Lu et al.** discloses the limitations as shown in the rejection of **claim 1** above. The combination of **Kim / Hartung et al. / Lu et al.** does not disclose the limitation of **claim 3**. However, **Adachi et al.**, in at least column 0299, lines 1-8, discloses a frame frequency of a drive signal generated by the driving means in the standby mode is lower than a frame frequency of a drive signal generated by the driving means in the active mode.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the frame frequency of the combination of **Kim / Hartung et al. / Lu et al.** with the teaching of **Adachi et al.** because such modification would greatly reduce the power consumption of LCD devices (see at least paragraph 0299, lines 8-9).

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. **Nagai et al.** (U.S. Patent Number 6,519,013) discloses a gray scale driving method for a birefringent liquid crystal display device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lauren Nguyen whose telephone number is (571) 270-1428. The examiner can normally be reached on M-F, 7:30-5:00 EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571) 272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Lauren Nguyen

February 12, 2007


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